THE

GREEN MOUNTAIN REPOSITORY.

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From Thompson's History of Vermont.

CHARACTER OF THE SETTLERS AND THEIR MODES OF PUNISHMENT.

1. The settlers on the New Hampshire grants were a brave, hardy, but uncultivated race of men. They knew little of the etiquette of refined society, were blessed with few of the advantages of education, and were destitute of the elegancies and, in most cases, of the common conveniencies of life. They were sensible that they must rely upon the labour of their own hands for their daily subsistence, and for the accumulation of property. They possessed minds, which were naturally strong and active, and they were aroused to the exercise of their highest energies by the difficulties which they were compelled to encounter. The controversy in which they were engaged involved their dearest rights. On its issue depended not only their titles to their possessions, but in many cases, their personal liberty and safety. Though unskilled in the rules of logic, their reasoning was strong and conclusive, and they possessed the courage and perseverance necessary for carrying their decisions into execution.

2. We have already observed that at the head of the opposition to the proceedings of New York, stood Ethan Allen, a man obviously fitted by nature for the circumstances and exigencies of the times. Bold, ardent and unyielding, he possessed an unusual degree of vigour both of body and mind and an unlimited confidence in his own abilities. With these qualifications, the then existing state of the settlement rendered him peculiarly fitted to become a

prominent and successful leader. During the progress of the controversy, Allen wrote and dispersed several pamphlets, in which he exhibited, in a manner peculiar to himself, and well suited to the state of public feeling, the injustice and cruelty of the claims and proceedings of New York. And although these pamphlets are unworthy of notice as literary productionst ye, they were extensively circulated, and contributed much to inform the minds, arouse the zeal, and unite the efforts of the settlers.

3. The uncultivated roughness of Allen's temper and manners were well suited to give a just description of the views and proceedings of a band of speculating and unprincipled land jobbers. His method of writing was likewise well adapted to the condition and feelings of the settlers and probably exerted a greater influence over their opinions and conduct, than the same sentiments would have done, clothed in the chaste style of classic elegance. Nor did it differ greatly in style, or literary merit, from the pamphlets which came from New York. But though Allen wrote with asperity and freedom, there was something generous and noble in his conduct. He refrained from every thing which had the appearance of meanness, injustice, cruelty or abuse towards those who fell into his power, and protested against the same in others.

4. Next to Allen, Seth Warner seems to have acted the most conspicuous part among the settlers. He like Allen, was firm and resolute, fully determined that the decisions of New York against the settlers should never be carried into execution. But while Allen was daring and sometimes rash and imprudent, Warner was always cool, calm and, comparatively, cautious. After Warner was proscribed as a rioter, an officer was sent from New York to apprehend him. He, considering it an affair of open hostility, defended himself against the officer, and in turn, attacked, wounded and disarmed him; but with the spirit and generosity of a soldier, he spared his life.

5. Notwithstanding the attempts which had been made to arrest the progress of the controversy, and the orders which had been received from the crown, it does not appear that the government of New York had, at any time, taken measures to prevent the location and settlement of lands under New York titles. The cause of contention therefore still remained. A reconciliation had been attempted, and its failure served to embitter the resentment of the

contending parties and to produce a state of hostility more decided and alarming.

6. It appears that committees were appointed in the several towns on the west side of the mountain, and that these committees met in convention, or general committee, as occasion required, to concert measures for the common defence. By this convention it had been decreed that no person should take grants, or confirmation of grants, under the government of New York. They also forbade "all the inhabitants in the District of the New Hampshire grants to hold, take, or accept any office of honour, or profit, under the Colony of New York; and all civil and military officers, who had acted under the authority of the governor, or Legislature of New York, were required to suspend their functions on the pain of being *viewed*."

7. These decrees had all the force of law, and the infraction of them was always punished with exemplary severity. The punishment most frequently inflicted was the application of the "*beach seal*" to the naked back and banishment from the grants. This mode of punishment derived its name from allusion to the great seal of the province of New Hampshire, which was affixed to the charters of the townships granted by the governor of that province, of which, the *beach rod* well laid upon the naked backs of the '*Yorkers*,' and their adherents, was humorously considered a conformation.

8. That the reader may have a just idea of the summary manner in which the convention and committees proceeded against those, who violated their decrees, we will lay before them the sentence of Benjamin Hough, as a sample. It appears that the culprit had accepted the office of justice of the peace under the authority of New York, and had officiated in that capacity. Being arrested and brought before the committee of safety at Sunderland, he pleaded the jurisdiction and authority of New York, but was answered by the decree of the *convention*, which forbade all persons holding any office, civil or military, under the colony of New York. The committee therefore in the presence of a large concourse of people pronounced upon him the following sentence, viz. "*That the prisoner be taken from the bar of this Committee of safety and tied to a tree, and there, on his naked back, to receive one hundred stripes; his back being dressed, he should depart out of the district, and on return, to suffer death, unless by special leave of Committee.*"

9. Although the application of the beach seal was the most common punishment, others were frequently resorted to; some of which were in their nature trifling and puerile. The following may serve as a specimen. A gentleman of Arlington became a partisan of New York and spoke in reproachful terms of the convention and the proceedings of the Green Mountain Boys. He advised the settlers to submit to New York and repurchase their lands from that government. Being requested to desist, and disregarding it, he was arrested and carried to the Green Mountain tavern in Bennington. The Committee after hearing his defence ordered him "to be tied in an armed chair, and hoisted to the sign, (*a catamount's skin, stuffed, sitting upon the sign post twenty five feet from the ground, with large teeth grinning towards New York,*) and there to hang two hours in sight of the people, as a punishment merited by his enmity to the rights and liberties of the inhabitants of the New Hampshire grants." This judgment was executed to the no small merriment of a large concourse of people, and when he was let down he was dismissed by the committee with the exhortation to "go and sin no more."

For the Green Mountain Repository.

COLLEGE OF NATURAL HISTORY OF THE UNIVERSITY OF VERMONT.

This Institution was organized on the 14th day of October, 1826, and the following Constitution adopted.

CONSTITUTION.

ARTICLE 1.—This society shall be called the COLLEGE OF NATURAL HISTORY OF THE UNIVERSITY OF VERMONT.

ART. 2.—The objects of the COLLEGE OF NATURAL HISTORY U. V. M. shall be the acquisition and diffusion of knowledge in every department of Natural History, and the accumulation of Books, Instruments, and all materials natural and artificial which can advance these ends.

ART. 3.—The members of the COLLEGE OF NATURAL HISTORY U. V. M. shall be from the Corporation and Officers, the Alumni and Students, of the U. V. M. and such other persons as may be elected according to the Constitution and laws of the College.

ART. 4.—The collections of the COLLEGE OF NATURAL HISTORY U. V. M. shall be kept, and its meetings held in the buildings of the U. V. M. or in their immediate vicinity.

ART. 5.—The Officers of the COLLEGE OF NATURAL HISTORY U. V. M. shall be a President, Vice President, a Recording Secretary, two Corresponding Secretaries, a Treasurer, six Curators, and a Publishing Committee consisting of six.

ART. 6.—The President, Recording Secretary, and Treasurer shall be (ex officio) curators; and the President and the two Corresponding Secretaries, shall be (ex officio) members of the Publishing Committee.

ART. 7.—The Officers of the COLLEGE OF NATURAL HISTORY U. V. M. shall form a board of directors; the duties of which board shall be to propose persons for membership; to authorize expenditures, to manage the general concerns, and to have a care over all the property of the institution.

ART. 8.—The annual meeting of the COLLEGE OF NATURAL HISTORY U. V. M. shall be held on the day preceding that of the University Commencement. Other stated meetings shall be at such times as may be specified in the bye-laws of the COLLEGE OF NATURAL HISTORY U. V. M. Meetings of the College can be adjourned only by vote of the same. Five members shall constitute a quorum for the transaction of business.

ART. 9.—The Officers of the COLLEGE OF NATURAL HISTORY U. V. M. shall be chosen at the annual meeting, by ballot, in the manner prescribed in the bye-laws.

ART. 10.—The initiation fee shall be, from the students of the University, and from such other persons as may, according to the bye-laws, be required to pay a periodical sum, three dollars, and from all others, five dollars. No person shall be considered a member, or be entitled to the privileges of one, until his initation fee be paid. Honorary members, to the amount of twenty-five, may be chosen, who shall have all the privileges of ordinary members but be subjected to neither of these charges.

ART. 11.—The first, second, third, and fourth articles of this Constitution shall be unalterable. Any other article may be altered, or any additional article may be inserted, at an annual meeting, by a vote of five sixths of the members present, provided that the said alteration or addition be proposed on the annual meeting pre-

vious, and then duly entered in the records of the College. No addition to the bye-laws, adopted with this Constitution, or alteration in them, shall be made without notice given and duly recorded at some previous stated meeting, and the concurrence of three fifths of the members present.

The stated meetings of the College of Natural History as fixed by the bye-laws, are on the 2d Tuesday of October, December, March, May and July; and the annual meeting as fixed by the 8th article of the Constitution. The board of Directors are required to hold stated meetings one week previous to the several meetings of the society and at such other times as they shall think expedient.

Immediately after the organization of the College of Natural History, the Hon. Corporation of the University appropriated suitable rooms for the temporary reception of its collections, and have since furnished, expressly for the Museum of this Society, a large and commodious room in the centre University building. Although their numbers were small, the formation of a cabinet of Natural History was immediately commenced by the original founders of the institution, and has since been prosecuted by the members of the society in some degree commensurable with its objects. In the departments of Conchology and Mineralogy, other institutions of our country may boast of larger collections, but we venture to affirm that, for the objects of science, they are exceeded by very few. In the other departments the collections are much less perfect, and still many interesting and important specimens in botany and in the various branches of Zoology have been accumulated. In addition to those objects, which are designed particularly for the illustration of Natural History, the society have obtained various specimens of art and manufacture from distant parts of the world, which are calculated to illustrate the manners and customs of the inhabitants, and have procured several interesting antiquities, some of which belonged to the aborigines of our own country, and others, the remains of the more civilized nations of the East: so that the museum of the College of Natural History is already becoming an agreeable place of resort, not only to the student and man of science, but to every admirer of the productions of nature and art.

The museum is open every day in the week (Sunday excepted) for the free admssion of visitants.

For the Green Mountain Repository.

INDIA RUBBER.

India Rubber, called also *caoutchouc*, was not known in Europe until about the beginning of the 18th century. It was then brought as a curiosity from South America, and it was subsequently called India rubber on account of the use made of it in rubbing out marks made upon paper with a black lead pencil. Nothing was known of its production, except that it was obtained from a tree, until the French academicians went to South America in 1735 to measure a degree of the meridian. It was then ascertained to be the concrete juice of a tree called *Hœvea Caoutchouc*, and it is now known to be obtained from several other trees which grow both in South America and in the East Indies. To obtain it an incision is made in the tree, from which exudes a milky juice, which is caught in vessels suited to the purpose. It is then formed into the desired shape by dipping in it, or spreading it over, moulds made of clay. The juice, when pure, is of a white colour, and without either taste or smell, and the dark colour of the common India rubber is owing wholly to the manner of drying it after it is spread upon the moulds. The usual way of doing this is to spread a thin coat upon the moulds and then to dry it by hanging it in the smoke; afterwards another coat is spread on, which is dried in the same way. Thus the common India rubber is made to consist of layers of the milky juice hardened by evaporation and union with the oxygen of the atmosphere, alternating with as many layers of root. When it is thus made of sufficient thickness and is sufficiently dried, the clay mould is removed by being broken, or pulverised leaving a soft yielding solid, very tenacious, and remarkable for its elasticity, and now well known by the name of India rubber. In this way it is made into shoes, tubes, bags, toys for children, and various articles both useful and amusing.

As the nature of the juice, from which the India rubber is made, is such that it cannot be preserved in its fluid state for exportation, many experiments have been made for the purpose of discovering methods of softening and remoulding it after it has become concrete. "This is done," says a correspondent in the third number of the Young Mechanic, "by the naptha from coal tar, which will dissolve it without altering the properties of the gum. This solution can be conveniently used for making elastic tubes, but is

more useful for covering cloth or leather, to make it impervious to the weather. This property of coal naptha was discovered by Mr. Syme. An easy method to make tubes, is to take sheet India rubber, about a tenth of an inch in thickness, an inch in width, and of any length, which must be cut with a pair of clean and sharp scissors, that the edges may be left with clean surfaces; then wind it spirally round a glass tube, bringing the cut edges in contact with each other, which is best done by applying a thumb nail upon each side of the section. When firmly pressed together while warm, the adhesion is such, that it will tear elsewhere as readily as at the junction. To prevent it from sticking to the glass, put a little flour over the inner surface of the gum, taking care that none of the flour gets upon the edges, which will prevent them from sticking. This process may be used with advantage in the repairing of India rubber shoes. In this case it is found to be useful to put a little of the gum, dissolved in spirits of turpentine, between the edges before joining them. It can be done, however, by merely using the clean edges and heat, as in making tubes. To make thin or sheet India rubber, I have heard of two methods; one is by gradually heating it until it becomes soft enough to be blown out as thin as wanted; the other, instead of heating it, is to soak it for ten or twelve hours in sulphuric ether, and blow it out in the same manner as when softened by heat. The common India rubber bags are generally used, as being the most convenient for this purpose. If this be done with ether, the bag, after being filled with air, should be left for the ether to evaporate, which will be in a few hours, when it will be found to have lost none of its elasticity. It may be observed, that in all experiments with India rubber, those parts which are to be kept separate should have flour between them; and in making the bags, it is necessary to blow flour upon the inside, to prevent their sticking. The following method I have used with success, in making small bags to be used instead of bladders, for philosophical purposes (which are not easily kept from becoming dry and cracking. Take a piece of sheet India rubber, double it, and cut the bag piece out with a pair of clean scissors, when the edges will be found to be slightly adhering to each other; then by taking a strip of the rubber, doubling it over the seams, and pinching it together with a pair of tongs or pliers heated as hot as the rubber will bear without burning, (which

should be tried upon another piece,) it will be found when cold to be as strong as any other part, and I have often burst the bag, by blowing in it, without starting the seam."

The specific gravity of India rubber is 0. 9335. It is unaltered by exposure to the air, and is insoluble in water. When boiled for some time in water its edges become some-what transparent owing to the water carrying off the soot. It is soluble in the volatile oils and in the alkalies. When exposed to heat it readily melts, but it never afterwards recovers its properties, but remains nearly of the consistency of tar. It burns readily with a bright white flame and diffuses a feted odour. In countries where it abounds it is frequently used for lights. When distilled it gives out amonia, and by analysis is found to be a composition of carbon, hydrogen, nitrogen and oxygen.

From Doct. Richardson's Zoology of the northern part of British America.

THE RED-BREASTED THRUSH.

None of the feathered tribe are better known in America than this, which, from its red breast and familiar habits, has obtained the name of the 'Robin.' It winters, in immense numbers, in the Atlantic States, from New Hampshire to the Gulf of Mexico, deserting at that season, the tracts to the westward of the Alleghany range. Notwithstanding the havoc made in its flocks for the supply of the markets, it affects the neighborhood of towns, and is observed to feed much on the fruit of the sour-gum *(Nyssa sylvatica)*,and on poke berries *(Phylotacca decandra)*. Sometimes it disappears from a district for a week or two, and returns again in larger flocks than before. In March it begins to sing, and pairs early in April. Many pairs breed in the United States, but great numbers spread themselves over every part of the fur countries, extending almost to the northern extremity of the continent. Its nests were observed by the expedition as high as the sixty-seventh parallel of latitude; and, from the reports of various travellers, it is known to visit the north-west coast of America. It arrives in the Missouri, (in lat. 41½), from the eastward, on the 11th of April, and in the course of its northerly movement, reaches Severn river in Hudson's bay, about a fortnight later. Its first appearance at Carlton House, lat. 53°, in the year 1827, was on the 22d of April.

In the same season it reached fort Chipewayan, in latitude 58¼°, on the 7th of May, and fort Franklin, in lat. 63°, on the 20th of that month. Those that build their nests in the fifty-fourth parallel of latitude, begin to hatch in the end of May; but, eleven degrees farther to the north, that event is deferred till the 11th of June. The snow even then partially covers the ground; but there are, in those high latitudes, abundance of the berries of the *Vaccinium uliginosum*, and *Vitis idœa*, *Arbutus alpina*, *Empetrum nigrum*, and of some other plants, which, after having been frozen up all the winter, are exposed, on the first melting of the snow, full of juice, and in high flavor. Shortly afterwards, when the callow young require food, the parents obtain abundance of grubs.

"The Red-breasted Thrush builds its nest on the branch of a spruce-fir tree, generally above five or six feet from the ground, taking no particular pains to conceal it, and frequently selecting a tree in the immediate vicinity of a house. Its nest is formed like that of the European thrush, of grass and moss, neatly interwoven, and lined with a compact coating of dung and clay. The male and female labour in concert in constructing it; and when the young are hatched, they jointly undertake the task of feeding them. The eggs, five in number, are about fourteen lines long, and have a bluish green colour, like those of the common thrush. The male is one of the loudest and most assiduous of the songsters that frequent the fur countries, beginning his chaunt immediately on his arrival. His notes resemble those of the common thrush, but are not so loud. Within the arctic circle the woods are silent in the bright light of noon-day, but towards midnight, when the sun travels near the horizon, and the shades of the forest are lengthened, the concert commences, and continues till six or seven in the morning. Even in these remote regions the mistake of those naturalists who have asserted that the feathered tribes of America are void of harmony, might be fully disproved. Indeed, the transition is so sudden from the perfect repose, the death-like silence of an arctic winter, to the animated bustle of summer; the trees spread their foliage with such magical rapidity, and every succeeding morning opens with such agreeable accessions of feathered songsters to swell the chorus—their plumage as gay and unimpaired as when they enlivened the deep-green forests of tropical climes, that the return of a northern spring excites in the mind

a deep feeling of the beauties of the season, a sense of the bounty and providence of the Supreme Being, which is cheaply purchased by the tedium of nine months of winter. The most verdant lawns and cultivated glades of Europe, the most beautiful productions of art, failed in producing that exhilaration and joyous buoyancy of mind which we have experienced in treading the wilds of arctic America, when their snowy covering have been just replaced by an infant but vigorous vegetation. It is impossible for the traveller to refrain, at such moments, from joining his aspirations to the song which every creature around is pouring forth to the great Creator."

LIGHT.

Look at that glassy wave, the light of which dazzles our eyes as if it came from a silvered mirror; where does that light originate?—O, you will say, it is only the sunbeams. To be sure, you admit, then, the light from the wave does not originate in the wave itself, but that it comes from the sun? Well, as it comes from the sun, let me ask, what distance has it travelled?—How far is the earth from the sun? Ninety-five millions one hundred and seventy-three thousand miles. A pretty long journey, you will confess; but is the light tardy in accomplishing it? No; it travels at the rate of nearly two hundred thousand miles in a second, and consequently, arrives at the earth from the sun in about eight minutes.—Does it travel farther than the earth? For what we know, it may travel on for ever till intercepted by some opaque or ponderable object; but we know for certain, that it reaches Herschell the most distant planet of our system, which is no less than eighteen hundred millions of miles from the sun. Now, is light material? I have no knowledge of it but what is obtained through the medium of sight; no other sense recognizes it; we cannot smell it; and it makes no impression on the nerves of touch. But I can learn, that it is not only compounded of three primary coloured rays, but also of others not connected with colour at all, of calorific and of oxidising and deoxidising rays. I can see, that it is necessary to vegetation; that plants, deprived of its presence, lose their green colour; that it effects various chemical decompositions;

and that it is subjected to certain fixed laws, which form the basis of the science of optics. From these circumstances I infer, that it is matter, that it is a substance; but how subtle must be the nature of a substance whose particles can move in every direction without interfering with each other; which can travel above ninety-five millions of miles in about eight minutes, and yet not exert the least perceptible force of collision; which will pass through the hardest crystal, or the purest diamond, with as much ease as though air or water? It is imponderable, and wants various properties which philosophers have thought to be essential to any thing. We see objects and light by the eyes: this you will admit, also, that, without organs of vision, we could have no knowledge of light and colours. But is it the eye that sees?—Consider now. You say, Yes; I say No. When you take up a telescope and look to the moons of Jupiter, you see those moons, which, without the telescope you could not see. But does the telescope see them? You laugh, perhaps; you think the question childish. It is not so. Suppose a card were slipped in between your eye and the eye-glass, you would then neither perceive the planet nor his satellites. Now, the eye is to vision what the telescope is; it is an optical instrument; it serves to form an image; but the eye itself does not see; it is the organ of communication with light, and is necessary to vision; but the sensation lies in the brain, or rather, I should say, in the mind which inhabits it. Cut off the communication between the eye and the brain, and the same result follows as when a card is placed between the eye and the telescope: all is dark. The optic nerve is the cord through which the brain communicates with the eye; and when, by disease or other means, that nerve, or its expansion, the retina, on which the images of external objects are painted, loses its function, or if, as has been often proved by experiment, the optic nerves be cut across, then the animal sees no longer, though the eyes themselves remain as perfect as before.—*Drummond's Letters.*

DRUIDS.

Druids were the priests or ministers of the ancient religion of the Gauls, Britons, and Germans. The druidical religion was at first extremely simple, and consisted of the following leading principles; 1. The professors of this religion were to honor the Divine Being as the Maker and governor of the universe; but they were to seek the assistance of subordinate deities, who were supposed to act rather as messengers, than as having any power of their own. 2. The Druids taught the people to believe that the souls of men were immortal, but that they passed from one body to another; a sentiment which could never have existed, had they been reconciled to the events of Providence. 3. Those who had been found guilty of notorious blasphemy were to be put to death; and in such cases the priests were the sole judges. 4. Men were to do to others, as they would that others should do unto them; neither to wrong their neighbors, nor to injure themselves. 5. It was deemed highly criminal to eat flesh, milk or eggs, because it was supposed that human souls inhabited animal bodies. 6. The first appearance of the new moon was reverently observed, as that planet was supposed to have great influence on the actions of men. 7. It was taught, that those who acted unjustly would be tormented in the bodies of snakes, or of other reptiles, till they should make an atonement for their sins, according to the directions of their priests.

Such were the theological tenets which the Druids taught their followers, but which were soon debased by abominable rites and ceremonies. The Druids worshipped their gods in groves, and under tall oaks. On every great festival, the high-priest or arch-druid, appeared under a tall venerable oak, dressed in fine linen, with a cope or mitre upon his head, and attended by priests of a subordinate rank. A prisoner taken in battle was sacrificed by him to the gods. The victim stripped naked, and his head adorned with flowers, was chained with his back to an oak, opposite to the place where the arch-druid stood. Whilst music was playing, the high-priest, having invoked the gods to accept of the sacrifice, walked forward with a knife in his hand, and stabbed the victim in the bowels. The people danced to the music; and the sacrificing Druid pretended to foretel events from the manner in which the blood flowed.

The Druids had such regard for the misletoe, which grows upon the oak, that when the season of its appearance approached, persons were sent to procure the most early intelligence of its being found. As soon as the Druids were informed of the fortunate discovery, the arch-druid, assisted by his inferior priests, cut off the misletoe with a consecrated golden knife, or pruning hook, and carried it to the principal grove in triumph. The misletoe was considered as a sovereign remedy for all diseases, and the peculiar gift of Heaven. In all their ceremonies of a public nature, the priest turned his eyes to heaven, and his face towards the east.

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DIVISIONS OF TIME.

Time in itself considered may be regarded as moving on uniformly. But with our present faculties it is difficult to form any conception of time, only as being measured to our understandings by the uniform motion of some sensible object. And as the sun and moon, were observed to exercise an important influence over the physical condition of man and to mark out for him the hours of labour and repose, they were adopted in the earliest ages as the measures of time, and have been employed by all nations according to their appointment for *signs*, and for *seasons*, and for days and for years.

The natural divisions of time, which are in common use are years, months and days. The year is measured by the motion of the earth, in its orbit around the sun—the month by the revolution of the moon around the earth, or the time from one new moon to another, and the day by the revolution of the earth on its axis. The divisions of time into hours, minutes, seconds, &c. is wholly artificial. The division into weeks was of divine appointment, but might have been suggested by the four aspects or quadratures of the moon.

The year is usually considered the integral measure of time. But on account of the imperfection, of their instruments and the difficulty of determining the precise time of the sun's arrival at the tropics, the true length of the solar year was not correctly ascertained till modern times; and hence we find that the years were of very different lengths as adopted by different nations.

The first object in the regulation of the year seems to be to keep the same seasons in the same months, or parts of the year. But the accomplishment of this object was attended with considerable difficulty as would appear by recurring to the history of this subject. The Romans first supposed the year to consist of twelve synodical revolutions of the moon, or 354 days; but they soon found that this year did not agree with the seasons. To remedy this inconvenience they first added a month every three years—but finding this insufficient they then added three months at the end of every eight years—and lastly they added eight months every nineteen years. But the Roman calendar was in much confusion, and to remedy the inconveniencies resulting from this state of things Julius Cæsar resolved to attempt a correction of it. It had been at this time ascertained that the length of the solar year did not differ much from 365 days, 6 h. He therefore adopted the Egyptian year of 365 d. with the correction of an additional day every four years. This is therefore called the Julian year, and was generally adopted in Europe. The manner in which the day was ordered to be added every fourth year, was by reckoning the 24th day of February twice, and as this was the 6th of the kalends before March, it was called bissextile from *bis*, *twice*, and *sextuo*, *sixth* meaning that the 6th of the kalends was twice reckoned, but is now usually called Leap year; and the day is added at the end of February

Time, however, showed that this correction was not accurate; for it was found after a long period of years, that the equinoxes and solstices happened earlier by some days than they formerly did, which showed that 365¼ days exceeded the true length of the year, and the more accurate observations of modern times have ascertained it to be only 365 days, 5 hours, 48′ 48″, which is 11′ 12″ less than 365¼. This difference would amount to one whole day in about 130 years.

From the correction of the calendar by Julius Cæsar, about 40 years before Christ, to the year 1582, the calendar was regulated according to the Julian account. In the year A. D. 325, the vernal equinox fell on the 21st of March, but in the year 1582 it fell on the 10th of March. In order therefore to have the great feast of Easter, which was to take place at the full moon next after the 21st of March, occur as nearly as possible at the same season each year

Pope Gregory ordered that 10 days should be dropped out of the calendar by calling the 5th of October the 15th. This would bring the vernal equinox upon the 21st of March. And to prevent the recurrence of this inconvenience, he ordered that each succeeding century divisible by 4, as 1600, 2000, 2400, &c. should be leap years, but the complete centuries not divisible by 4, should be common years; as 17, 18, 19, 21 &c. This correction was immediately adopted in all Roman Catholic countries; and is so nearly correct as not to cause the vernal equinox to differ more than about one whole day from the 21st of March, in 5000 years.

It was not adopted in England and this country till 1752, when the correction amounted to 11 days. The Gregorian account is called the *New Style*, in distinction from the Julian, which is called the *Old Style*. The difference between the two is now 12 days.

The times of beginning the year have been as different as their lengths. The Jews began their ecclesiastical year with the new moon, whose full happened next after the vernal equinox, and their civil year with the new moon nearest the autumnal equinox. The Romans at first began their year in March, but Numa changed it to January. The Egyptian year began on 29th of August. The Arabic on the 16th of July.

Days are divided into natural astronomical and civil. The natural day is of different lengths. It is used in distinction from the night, and extends from sun rise to sun set. The astronomical day begins and ends at noon—the civil day of most modern nations begins and ends at midnight. Some nations have commenced their civil day at the sun's rising, as the Babylonians, Persians, &c.; and others, as the Jews, Greeks, Chinese, &c. at the sun's setting.

HINTS ON CONVERSATION.

It is our wish to see the conversation of well-bred women rescued from vapid common place, from uninteresting tattle, from trite and hackneyed communications, from frivolous earnestness, from false sensibility, from a warm interest about things of no moment; and an indifference to topics the most important, from a cold vanity, from the overflowings of an engaging flattery, and from all the factitious manners of artificial intercourse. We *do* wish to see the time passed in polished and intelligent society, considered among the beneficial as well as the pleasant portions of our existence, and

not consigned over, as it too frequently is, to premeditated trifling, or systematic unprofitableness. Let us not, however, be misunderstood; it is not meant to prescribe that women should affect to talk on lofty subjects, so much as to suggest that they should bring good sense, simplicity, and precision, into those common subjects, of which, after all, both the business and conversation of mankind is in a great measure made up.

It is too well known how much the dread of imputed pedantry keeps off any thing that verges towards *learned*, and the terror of imputed enthusiasm staves off any thing that approaches to *serious* conversation, so that the two topics which peculiarly distinguish us, as rational and immortal beings, are by general consent in a good degree banished from the society of rational and immortal creatures. But we might almost as consistently give up the comforts of fire, because a few persons have been burnt, and the benefit of water, because some other persons have been drowned, as relinquish the enjoyment of intellectual, and the blessings of religious intercourse, because the learned world has sometimes been infested with pedants, and the religious world with fanatics.

Ladies commonly bring into good company, minds already too much relaxed by petty pursuits, rather than overstrained by intense application; the littleness of the employments in which they are usually engaged, does not so exhaust their spirits as to make them stand in need of that relaxation from company, which severe application or overwhelming business makes requisite for studious or public men. The due consideration of this circumstance might serve to bring the sexes more nearly on a level in society; and each might meet the other half way; for that degree of lively and easy conversation, which is a necessary refreshment to the learned and the busy, would not decrease in pleasantness by being made of so rational a cast as would yet somewhat raise the minds of women, who commonly seek society as a scene of pleasure, as a refuge from intense thought or exhausting labor.

It is a disadvantage even to those women who keep the best company, that it is unhappily almost established into a system, by the other sex, to postpone every thing like instructive discourse till the ladies are withdrawn; their retreat serving as a kind of signal for the exercise of intellect. And in the few cases in which it happens that any important discussion takes place in their presence,

they are for the most part considered as having little interest in serious subjects. Strong truths, whenever such happen to be addressed to them, are either diluted with flattery or kept back in part, or softened to their taste; or if the ladies express a wish for information on any point, they are put off with a compliment instead of a reason; and are considered as beings who are not expected to see and to judge of things as they really exist.—*P. Album.*

THE VIRTUOUS WIFE.

TRANSLATED FROM THE GERMAN BY A STUDENT.

Whosoever has gained a virtuous wife possesses a treasure of intrinsic worth—a prize of higher value than the most costly pearl.

Such a treasure had Rabbi Meir, the great teacher, obtained. He sat, on the Sabbath, in the synagogue, instructing the people. In the mean time, death, who often aims his poisonous shafts against the infant breast, and spares the aged and infirm, did, by an unexpected stroke, deprive the parents of two goodly sons: both were of handsome shape—both, by a Father's care, enlightened in the law.

His partner looked at first on their bereavement with all the feelings of a tender mother; but, soon her piety shone predominant, and in the duties of the wife, each selfish wish was buried. Anxious to save her husband from those pangs which a too sudden knowledge of his loss might raise, she moved the bodies of her sons in to her chamber—laid them on her bed, and with white drapery concealed them.

In the evening Rabbi Meir returned, who, with a father's fond solicitude, inquired, "where are my sons, that I may give to them the blessing?"

"They are gone into the synagogue," repned his wife.

"I looked around, while there, in expectation of their coming, but saw them not," rejoined the Rabbi.

She handed him a goblet with wine; he praised the Lord at the ending of the Sabbath, drank, and again asked, "where are my sons that they may also drink and partake of the blessing.

"They are not far," she said, and wishing to change the objects of his thoughts, with ready hand prepared their evening meal. Of this he did partake, and after giving thanks his wife thus spoke: "Rabbi, permit me to ask your judgment in a cause which much

concerns me. A few years since a person gave unto my care some jewels:—these I received with pleasure, watched their safety with an anxious mind, contemplated with pride their worth, and dared at length to view them as my own, when, in an unexpected hour, a messenger is sent, who in his master's name, doth claim my valued charge: Shall I restore these gems to him?" "My wife ought not first to inquire this," said Rabbi Mier; "wilt thou delay returning to the owner each one that he hath lent thee?" "Oh no," answered she, "if it is unjust so to do;—but I would not return them without thy knowledge."

She then conducted him to the chamber, walked forward and removed from the dead bodies their covering. "Oh, my Sons! my Sons!" cried the father, in the fullness of his grief—"do I find you thus? I gave you life, I enlightened your mental eyes in the law, and looked upon you as the solace of my declining years, when on a sudden, I find myself bereft of you."

She turned from him, wishing to conceal the agitation of her mind, but roused at length by the violence of his grief, she seized him by the hand and spoke.

"Rabbi, hast thou not taught me, that it is contrary to the moral as well as religious duties of men, to refuse restoring what is entrusted to their care? Behold, the Lord gave, and the Lord hath taken away, blessed be the name of the Lord."

"The name of the Lord be praised," rejoined Rabbi Meir, conscious he had erred in repining at His will who is infallible; in murmuring at His mandate, who is omniscient.

It is truly said, "Whosoever hath found a virtuous wife has a greater treasure than the most costly pearl; she opens her mouth with wisdom, and in her tongue is the law of kindness."

NATURAL PHILOSOPHY is that science which considers the powers of nature, the properties of natural bodies, and their action on each other.

ILLUSTRATION. Natural philosophy is distinguished from chemistry, by its treating on the laws of natural bodies in mass; whereas chemistry treats of the laws of the constituent atoms of bodies, as those atoms bear relation to each other.

METEOROLOGICAL

BURLINGTON, Vt., Lat. 44° 27′. Long. 73° 14′. Altitude above Lake

1832.		*Thermometer.*			*Barometer.*			RAIN	*Winds.*		
AUG.		S. R.	1P.M.	9 EV.	S. R.	1 P.M.	9 EV.	Inch's	Morning.	Noon.	Evening.
1	4	61	71	63	29.40	29.25	29.30		N.	N.	N. W.
2	5	53	78	73	29.45	29.20	29.15		N. W.	N.	N. W.
3	6	56	80	71	29.30	29.00	29.00		S.	S.	S.
4	7	57	81	75	29.20	28.95	28.90		S.	S.	S.
5	G	66	80	74	29.00	28.90	28.95		S.	S.	S.
6	2	64	82	74	29.15	28.95	28.95		S.	S.	S.
7	3	70	82	71	29.00	28.90	29.00		S.	S.	S.
8	4	68	81	72	28.90	28.75	28.75	.19	S.	S.	S.
9	5	66	80	62	28.80	28.20	28.80		S.	S.	N.
10	6	62	74	60	28.80	28.80	29.10		N.	N.	N. W.
11	7	55	74	64	29.35	29.15	29.30		S.	S.	S.
12	G	62	84	72	29.40	29.00	29.05		S″.	S′.	S′.
13	2	68	83	78	29.20	28.90	28.80		S.	S.	S.
14	3	68	83	74	29.00	28.90	28.90	.68	S′.	S.	S.
15	4	70	84	68	28.90	28.60	28.80	.41	S′.	S′.	S′.
16	5	58	68	60	29.00	29.20	29.20	1.36	N.	S.	N.
17	6	54	66	60	29.30	29.30	29.40	.04	N.	N.	N.
18	7	53	70	65	29.45	29.30	29.40		N.	N.	N′.
19	G	59	63	61	29.20	29.20	29.15		S.	N.	S.
20	2	60	70	66	29.30	29.30	29.20	1.08	N. W.	S.	S.
21	3	56	78	68	29.40	29.00	29.00		S.	N.	S′.
22	4	66	69	68	29.00	28.90	28.70		S″.	S.	S′.
23	5	60	77	66	28.80	28.75	28.90		S.	S″.	S.
24	6	55	62	53	29.05	28.95	29.20		S.	S.	N′.
25	7	45	57	52	29.45	29.45	29.45	.44	N′.	S.	N.
26	G	45	70	65	29.45	29.15	29.20		N. W.	N. W.	S.
27	2	56	76	67	29.20	28.95	29.05		S.	S. W.	S.
28	3	57	78	68	29.15	28.95	28.90		S.	S″.	S′
29	4	64	80	70	29.15	29.00	29.20		S.	S.	S.
30	5	61	78	72	29.30	29.05	29.00		S.	S′.	S.
31	6	70	64	53	28.95	28.90	29.35	.56	S″.	S″	N.
MEAN		60.2	78.1	66.6	29.16	29.01	29.06	4.76	Gen'l mean Ther. 68.3		

JOURNAL.

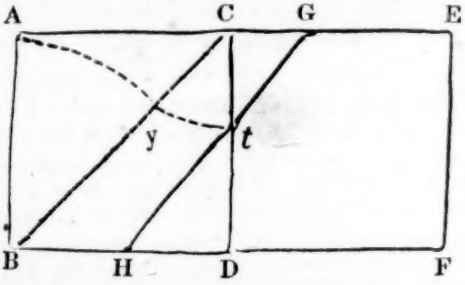
Champlain 250 feet. Distance from the Lake, one mile East.

Weather.				Remarks.
D.	Morn.	Noon.	Even'g.	
1	*Cloudy*	*Clear*	*Clear*	
2	*Clear*	*Clear*	*Clear*	
3	*Clear*	*Clear*	*Clear*	
4	*Clear*	*Clear*	*Cloudy*	
5	*Fair*	*Fair*	*Fair*	Smoky
6	*Fair*	*Clear*	*Fair*	Thunder.
7	*Cloudy*	*Clear*	*Cloudy*	Thunder Shower.
8	*Fair*	*Clear*	*Fair*	Thunder.
9	*Cloudy*	*Fair*	*Cloudy*	A little rain
10	*Cloudy*	*Fair*	*Clear*	
11	*Clear*	*Clear*	*Fair*	Heavy dew.
12	*Clear*	*Clear*	*Clear*	Thunder.
13	*Cloudy*	*Fair*	*Fair*	Thunder Shower.
14	*Cloudy*	*Fair*	*Cloudy*	Thunder Showers.
15	*Fair*	*Fair*	*Rain*	Thunder Shower.
16	*Clear*	*Fair*	*Cloudy*	Rain in the night.
17	*Cloudy*	*Fair*	*Clear*	
18	*Clear*	*Clear*	*Fair*	Heavy dew.
19	*Rain*	*Rain*	*Cloudy*	
20	*Cloudy*	*Fair*	*Clear*	
21	*Clear*	*Clear*	*Clear*	Heavy dew.
22	*Cloudy*	*Cloudy*	*Fair*	Thunder at a distance.
23	*Clear*	*Clear*	*Clear*	Remarkable Aurora Borealis.
24	*Clear*	*Cloudy*	*Fair*	Rain in morn. Thun. Showers.
25	*Cloudy*	*Clear*	*Clear*	Fire ball in the evening.
26	*Clear*	*Clear*	*Clear*	
27	*Clear*	*Clear*	*Clear*	
28	*Clear*	*Clear*	*Clear*	
29	*Fair*	*Clear*	*Fair*	Very Smoky.
30	*Cloudy*	*Cloudy*	*Clear*	Thunder Shower.
31	*Fair*	*Rain*	*Clear*	

Barometer, 29.07 inches.

Additional Remarks.—By the foregoing table, it appears that the mean temperature of August this year is 68.3 degs. which is 1.9 degs. colder than August, 1828, and 0.7 deg. warmer than the mean of Doct. Saunders' observations. Range of the thermometer, from 45 to 84 degs. equal to 39 degs. Range of the barometer, from 28.60 to 29.45, equal to 0.85 inch.

SOLUTION OF THE QUESTION IN NO. 7.



Let A D and C F represent the two fields, each containing 100 acres, andlet the triangles C t G and H t D be the parts cut off by the straight line G H, the former containing 2 and the latter 4 acres. Now as these triangles are similar, and their areas are as 1 to 2, their bases C t and t D will be as the square root of 1 is to the square root of 2, *i. e.* as 1 to 1.414+. Or, since C D, the side of a square containing 100 acres, is 31.62+chains, C t=13.09+ch. and t D=18.52+, and having found the bases, dividing the area of each triangle by ½ its base the hight C G is found to be 3.05+ch. and H D, 4.31+ch.

The question admits also of a very neat algebraic solution, as follows: putting a=C D, and x=C t, we have

$$2 : 4 :: x^2 : \overline{a-x^2} = a^2 - 2\,a\,x + x^2$$

$$\frac{4\,x^2}{2} = 2\,x^2 = a^2 - 2\,a\,x + x^2, \text{ or } x^2 + 2\,a\,x = a^2$$

$$x^2 + 2\,a\,x + a^2 = a^2 + a^2, \text{ and } x = \sqrt{a^2 + a^2} - a$$

Now as a=31.62+, x is readily found to be 13.09+ch.= C t, as before.

The value of x, in the above solution, readily suggests the method of finding the point t by construction, for as a=the side of the square the square root of a^2+a^2= the diagonal B C, from which take a=A B=B y and the remainder C y=C t=x. After finding in this way the point t, the heights C G and H D may be found as before.

Question.—Being at the side of a room opposite to a window, with my eye just as high as the bottom of the window, I could count up the side of the window 42 courses of brick in a house on the opposite side of the street which was 12 yards wide, and on moving 5 yards towards the window with my eye at the same height I could count 72 courses; what was the height of the window, supposing 4 courses of brick to make a foot?

SUMMARY.

Fast.—The 21st day of September has been appointed by the Governor of Vermont, as a day of humiliation, fasting and prayer, in reference to the epidemic cholera which is now prevailing in our land.

A letter from Vienna estimates the number of deaths by cholera, in the Austrian dominions, at 400,000.

M. Linant, a French traveller, has discovered a gold mine on the mountains near the shore of the Red Sea, a short distance from Cassier. The ore is said to be equal to the richest found in Peru.

Mr. Audobon, the celebrated ornithologist has obtained in Boston, eight or ten subscribers for his new work on the birds of America, and has gone to Nova Scotia. The subscription price of this splendid work is $800 per copy, so that ten subscribers will amount to no less than $8000.

According to the census of 1830, there were then living in the United States 2079 persons who were more than 100 years old.

Yankees.—When the New-England Indians first tried to speak the word *English*, they called it *Yengees*. The white inhabitants of the northern States were soon known to the neighbouring tribes by this appellation: and to this day we are distinguished from our southern and western brethren by the title of Yankees.

The White Mountains in New-Hampshire were covered with snow on the 26th of August.

The Ohio river at Wheeling was eleven feet above low water mark on the 23d of August.

Henry Sheldon, Esq. of the city of New York, has made a donation of $2000 to the American Colonization Society, for the establishment of a High School at Liberia, in Africa.

Past Scenes.—Past scenes, says Bishop Horne, are generally recollected with a solemn sadness, caused by the thought, that the time is gone which will never more return. Our days must be well and profitably spent, if we would remember them with pleasure.

A plain and short road to a good destiny.—Be studious, and you will be learned. Be industrious and frugal, and you will be rich. Be sober and temperate and you will be healthy. Be virtuous and you will be happy.

Would you punish the spiteful? Show him that you are above his malice. The dart he threw at you will rebound and pierce him to the heart.

Milton's Wife.—When our immortal bard was young, he married a *shrew*. The Duke of Buckingham called her a *rose*. "I am no judge of colours," said Milton, "and it may be so for I feel the thorns daily."

POETICAL DEPARTMENT.

For the Green Mountain Repository.

LINES WRITTEN IN AN ALBUM.

Reflection—Reason—both declare
That Friendship is the sweetest name,
That tongue can speak, or mortals hear,
Or Kindred spirits ever claim.

Around this name a holy charm
Diffuses peace and joy supreme,
And bids the heart elate and warm,
Cherish and love the darling theme.

Yes Friends are dear; but dearest friends—
The loved ones of our earliest years—
Must oft sojourn in distant lands—
Must oft demand our parting tears

But when they're gone, how sweet to dwell
On the remembrance of the past;
Their name becomes a magic spell—
A charm while life and reason last.

Tis pleasure then to call to mind
Those friends with whom our youth was spent—
For this the ALBUM is designed—
These leaves were formed for this intent.

Then let no hand presume to place
A name upon this sacred book,
In which remembrance cannot trace
A true Friend's hand, and heart, and look.

Q.

For the Green Mountain Reposrtory.

THE BIBLE.

Hail, holy Book! of books the best!
Thy page reveals a place of rest—
Opens to Adam's fallen race,
Abundant stores of heavenly grace.

To man thy sacred leaves impart
A knowledge of his wily heart—
Show him he's gone from right astray—
Bid him return without delay.

Thanks to our God, whose love to man,
Formed and revealed the gracious plan,
By which his justice is secured,
And pardon to our race insured.

Thou, best of books! be near my heart!
Thy blest instructions oft impart,
To guide my feet—disperse my fears—
While passing through this vale of tears.

Thy light alone dispels the gloom—
The dread and darkness of the tomb—
Reveals to man the narrow way
Which leads to life and endless day. Q.

BLESSINGS OF KNOWLEDGE.

BY MR. MONTGOMERY.

Of all that live and move and breathe,
Man only rises o'er his birth;
He looks above, around, beneath,
At once the heir of heav'n and earth;
Beyond the grave, with hope sublime,
Destin'd a nobler course to run,
In *his* career the end of Time
Is but Eternity begun.

What guides him in his high pursuit,
Opens, illumines, cheers his way,
Discerns th' immortal from the brute,
God's image from the mould of clay?
'Tis Knowledge: Knowledge to the soul
Is pow'r and liberty and peace;
And while celestial ages roll,
The joys of Knowledge shall increase.

Hail to the glorious plan! that spreads
This light with universal beams,
And through the human desert leads
Truth's living, pure, perpetual streams:
Behold a new creation rise,
New spirits breath'd into the clod,
Where'er the voice of wisdom cries,
"Man! know thyself, and fear thy God!"

FROM THE CHRISTIAN REFLECTOR.

Almighty God, thy pow'r we sing!
And to thy goodness tribute bring
For all thy works of love;
Thy wisdom crowns thy boundless might,
Thy kindness brings thy truth to light
As clear as orbs above.

The universe thy greatness shows,
And endless space thy presence knows.
O, wond'rous glorious God!
Thy finger marks the comet's sphere,
And countless orbs in full career
Pursue their various road.

Nor less the wonders of thine hand,
Which, nearer view'd, our souls command,
For grandeur shines in all;
The lightning's glare, the foaming deep,
The whirlwind's blast, the craggy steep
Our trembling frames appal.

And, wand'ring through this globe of earth,
On which unnumber'd tribes have birth
In quick successive round;
We stop to gaze, but soon are lost
On seas of pow'r creative tost,
The pow'r without a bound.

How full are earth, and sea and air!
How great thy love! what constant care
Of all the host is shown;
On great and small thy bounty flows,
And all creation richly glows
With goodness all thine own. T.